Before the
Federal Communications Commissions
Washington, D.C. 20554

In the Matter of	)	
	)	
Improving Public Safety Communications	)	WT Docket No. 02-55
In the 800 MHz Band	)	
	)	
Consolidating the 900MHz Industrial/Land	)	
Transportation and Business Pool Channels	)	

To: The Commission

Comments of Palomar Communications, Inc. To
Supplemental Comments of the Consensus Parties

Pursuant to that Public Notice entitles *Wireless Telecommunications Bureau Seeks Comment On "Supplemental Comments Of the Consensus Parties" Filed In the 800 MHz Public Safety Interference Proceeding – WT Docket No. 02-55*, DA 03-19 (released January 3, 2003), Palomar Communications, Inc hereby submits its comments in opposition to that document entitled "Supplemental Comments of the Consensus Parties" (*Supplement*) dated December 24, 2002 filed within this proceeding by those parties referenced therein as the Private Wireless Coalition (PWC). Palomar Communications Inc. respectfully requests that this electronically wired document be included in the record of this proceeding as a necessary response to that *Supplement*, which response could not have been made previously.

Palomar Communications, Inc. is an 800 MHz SMR service provider in San Diego County, California. We have been in business for 40 years operating a two-way radio sales and service shop. We also provide service on 450 MHz Community Repeaters, 220 MHz SMR, and lease out space at mountaintop communications sites to other

Communication Service providers. We feel that our extensive radio experience in the local area qualifies us to comment on the Consensus Plan's impact on radio service in the Mexican border region. We appreciate the Consensus Parties time invested in the quest for a solution to CMRS-public safety interference but find that we cannot support their method to achieve that goal. We acknowledge that the Consensus Plan will reduce the incidence of CMRS-public safety interference in some cases but will generally create more problems than it solves. The Consensus Plan as a whole is incomplete, inconsistent and contradictory, does not address previous concerns or questions raised by others, the border region plan is unworkable, and the technical parameters are unrealistic or undefined.

After reading the Consensus Plan, it is apparent that the primary objective is for Nextel to acquire the 1.9 GHz band in exchange for less desirable spectrum at the least expensive means possible. The Consensus Plan just creates the necessary confusion to conceal this fact. The reduction of CMRS-public safety interference is a convenient and beneficial by-product of this scheme but remains a secondary objective.

The Consensus Plan requires that Nextel surrender it's 700 MHz and 900 MHz holdings, but never explains why this is necessary. We agree that Nextel should be made whole if they lose spectrum, and best way to accomplish this is not to require that they give up their 700 MHz and 900 MHz holdings in the first place. The Consensus Plan can be executed as it is without the forfeiture of this spectrum. The claim that Nextel will lose spectrum at 800 MHz has yet to be supported by any hard data, rather it is presented as an

article of faith, not to be questioned. The same can be said about their 900 MHz licenses. Again, no proof of their actual 900 MHz holdings nationwide, only vague generalities. If any trading of spectrum takes place, it should be done on a channel-by-channel, license-by-license basis. This way there will no question about whether or not Nextel is losing or gaining spectrum.

The 700 MHz Guard Band that Nextel manages is not related in any way to 800 MHz CMRS-public safety interference creation nor its resolution and should therefore be eliminated entirely from any continuing discussion. Nextel is simply experiencing a case of buyers remorse and is trying to trade it for more desirable spectrum. At the very least, the spectrum that Nextel receives in trade should have the same restrictions on it as are on it's 700 MHz Guard Band license, i.e., Nextel would be a band manager, not an end user. Nextel's 700 MHz holdings are not nearly nationwide, contrary to the Consensus Plan's admonitions. Remember that this is a guard band. The spectrum is only usable in those 92 cities in areas **outside** of existing TV station protection contours. To say that Nextel's 700 MHz license is virtually nationwide and covers 94% of the population is to distort the truth.

One possible solution is for Nextel to remain on 900 MHz after the realignment. This would free up more spectrum at 800 MHz for public safety, even in the border regions. It would be more economical on Nextel's part not to have to deconstruct an entire nationwide system on 900 MHz. While it is true that this would make their system dual

band, they were prepared to do this on a temporary basis anyway. In any event, they were planning for dual band service with 800 MHz and 1.9 GHz.

The Consensus Plan for the Mexican Border region is unworkable and there is no specific plan, only general guidelines. The most obvious shortcoming is the absence of any plan to move or protect current B/ILT and public safety incumbents in the 861-866 MHz band. These licensees are simply omitted from all discussion. Would these licensees stay where they are and continue to be interleaved with Nextel, or would they have to move at their own expense to other spectrum? No mention is made of a funding mechanism or a timetable that would control these licensees. Certainly this part of the Consensus Plan needs to go back to the drawing board.

The next glaring flaw in the Consensus Plan is to allow and even encourage Nextel to continue to operate in the Mexican spectrum at 851-856 MHz. This would put Nextel adjacent to the new NPSPAC channels at 856 MHz with no guard band between them. **It is inconceivable to us that the solution to interference caused by interleaving is to again interleave CMRS and public safety in the border area.**

Another problem with this plan is that there just aren't enough channels in the border region to make it work. The main obstacle is the fact that two existing NPSPAC 12.5 KHz channels **cannot** be converted into one 25 kHz channel in the new NPSPAC band. This may seem to make sense on paper, but in fact does not work in real life. The existing NPSPAC users can only be moved in a channel-for-channel arrangement. In the

border region, channels are offset from non-border region channels by –12.5 kHz because of their geographically close proximity to each other. The proposed border region NPSPAC channels are in the same band as non-border region B/ILT and public safety systems operating on a 25 kHz channel spacing, only offset –12.5 kHz from them. Therefore, new border region NPSPAC channels can only be spaced 25 kHz apart from each other so as to not be on-channel with geographically adjacent non-border region users, regardless of whether or not the NPSPAC licensees are employing narrowband 12.5 kHz modulation.

Let's take a case in point. In San Diego County, there are currently 82 primary and 40 Mexican secondary NPSPAC channels in use. In the 856-866 MHz band there are currently 84 public safety and 55 B/ILT channels in use. The balance of 160 channels belong to Nextel. Under the Consensus Plan's scheme, the 82 primary NPSPAC channels would relocate starting at 856.025 MHz and move up the band. Next would come the 84 public safety users. The last public safety channel would be at 860.175 MHz. This only leaves 32 channels left to accommodate 55 B/ILT channels before running into the Nextel band at 861.000 MHz. But, not to worry, the Consensus Plan says that the remaining 23 B/ILT channels can encroach into Nextel's band starting at 861.000 MHz. Don't forget that the channels in this area alternate with Mexico every other channel. This would put the last B/ILT channel at 862.100 MHz. What is the interference protection afforded these hapless souls? The Consensus Plan does not address this question, nor does it mention if the public safety channels above 859 MHz will be afforded the same protection as those below 859 MHz.

The real problem however is the 40 remaining NPSPAC channels that are secondary to Mexico. These represent a full third of San Diego County's current NPSPAC channel usage. The Consensus Plan offers two choices. The first is to remain where they are and be surrounded by new Nextel base stations. However, all new public safety radios will be specifically excluding this old NPSPAC band from their radio receiver's pass band, as required by the Consensus Plan. The second option is to move to the other Mexican assignment at 851-856 MHz and share this band with Nextel. The problem here is that they will now be secondary to Mexican B/ILT systems, not Mexican public safety. At least when U.S. public safety shares with another country's public safety users, they have a common goal. This cannot be said in the case of current Mexican B/ILT licensees who have no motivation to accommodate new co-channel users on a secondary basis. No one even knows if there are channels available, let alone if they could get permission to use them. In either case public safety is again interleaved with Nextel. This plan only accommodates current public safety usage. There is no room for expansion, contrary to the Consensus Plan's statements.

The problem with the Mexican Border area is also one of compatibility. The whole point of having a National Public Safety Radio System (NPSPAC) is that it is universal. Public safety agencies need to be able to roam into each other's jurisdictions to provide assistance. This requires that their radios be compatible. Therefore, new public safety radios purchased for use in the border area will, by design, have receivers tuned to the 851-856 MHz band where Nextel will be operating CMRS base stations. The Consensus

Plan places no restrictions on Nextel in this part of the band and affords no interference protection whatsoever to public safety licensees. If public safety in border regions were to procure special radios that excluded this band, they would no longer be compatible with adjacent jurisdictions. The same can be said of the B/ILT users in the border area. Nationwide, new B/ILT radios will be designed to work only up to 861 MHz in order to protect themselves from Nextel to the greatest extent possible. Border area licensees however will need special radios in each area to realize any gains achieved by realignment. This incompatibility issue rears it's ugly head again when the Consensus Plan dismisses any concern over whether or not the Plan is sufficiently funded. The Consensus Plan states that if the funding dries up before realignment is complete, then the rebanding will simply stop in it's tracks. The NPSPAC regions left undone will be orphaned by this action. The new NPSPAC radio systems used by the rest of the country will not be compatible with old NPSPAC systems.

We wholeheartedly agree that realignment will help tremendously in resolving CMRS-public safety interference which is why we cannot support the Consensus Plan for the border region because it does not eliminate interleaved incompatible technologies. What is the point of spending a lot of money and time to achieve nothing? If the Consensus Plan cannot provide relief to public safety and B/ILT in the region with the highest priority for interference resolution then it should not be adopted at all.

Perhaps the most egregious statement in the Consensus Plan is their contention that "A base-to-mobile signal strength of –98 dBm represents a transmission only slightly higher

than the minimum necessary for successful voice communications". Nothing could be further from the truth. This statement can only be characterized as a bald faced lie. Usable signal strengths extend down to a level of –120 dBm. This is the industry standard for virtually all two-way radio systems.

To require that B/ILT and public safety systems produce signal strength of this magnitude throughout their existing coverage area in order to have any protection at all is unrealistic. These signal levels are simply unobtainable for most licensees, especially high site licensees. As a general rule existing licensees already transmit at their maximum legal power. A 25 dB increase in power output across the board is not a practical solution, even if the FCC would consider modifying all existing 800 MHz non-CMRS licenses. The only logical solution left would be to force B/ILT and public safety to adopt a system architecture similar to Nextel's. The Consensus Plan is desperately trying to avoid this eventuality. They know that this would lead to a power war and Nextel's own handsets would have a difficult time surviving the very same environment that they expect public safety and B/ILT users to survive. Nextel's own handsets require a signal strength in the neighborhood of –95 dBm to work reliably. If Nextel could improve their own handset receiver design to match the sensitivity of radios made by the industry-at-large, they in turn could reduce their base station output signal levels by 25 dB. This change would surely make a monumental improvement toward the reduction of CMRS-public safety interference.

Another significant improvement that could be made today would be for Nextel to employ output filtering on all of their base station transmitters. Contrary to the

Consensus Plan's statements, there is no technical reason that prevents Nextel from using band pass filters on their transmitters. It's simply not convenient for Nextel to do so. As Raymond C. Trott, P.E., has publicly stated in response to questions about Nextel's unwillingness to use output filtering to reduce CMRS-public safety interference, "Yes, that would be the best solution, but Nextel wouldn't want to do that".

The proposed interference protection threshold for the new 800 MHz Guard Band will make it utterly useless to almost all licensees unfortunate enough to be relocated there. The addition of 33 dB to the already high interference protection threshold of –95 dBm will virtually guaranty that the upper section of this new guard band will become a no-man's land. This is doubly true for the Mexican border region where most relocated B/ILT's will have no interference protection at all from Nextel because their own signals are below -62 dBm. Once again, in order to receive any protection from Nextel, B/ILT's must build a Nextel-like system. The Consensus Plan says that this "adjustment" will provide "somewhat less" interference protection than that provided to public safety licensees. This has got to be the mother of all understatements.

Palomar Communications believes that the Consensus Plan does not solve the interference problems particularly for San Diego County. It creates new dilemmas for the Commission. We urge the FCC to set aside this plan which would do more harm than good. Many interference problems have been solved across the country on a case by case basis and this information should be used to achieve harmony in the 800 MHz. band.

Respectfully Submitted,

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